

NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM (NFLIS)

March 2019

The National Forensic Laboratory Information System (NFLIS) is a program that systematically collects drug chemistry analysis results from cases where drugs have been seized in law enforcement operations and analyzed by state, local, and federal forensic laboratories.¹ NFLIS data provide valuable information related to the types of substances found in illegal markets and changes in substances over time, but the NFLIS system is not a reliable source for tracking trends in volume or quantity of drugs in the state. Laboratories can only analyze samples that are sent to them, meaning there may be an undercount of identified drugs if all law enforcement agencies do not send all samples to the lab. Different labs may also have varying procedures for handling drug evidence; some labs analyze all evidence submitted, whereas others only analyze selected drugs.

NFLIS users are limited in their ability to draw conclusions about trends in quantity of drugs in the state, but the data allow law enforcement and public health agencies to track the abuse and trafficking of illicit drugs, and the diversion of legally manufactured drugs into illegal markets by examining changes in types of drugs seized over time.

Public health agencies play an important role in combating the opioid epidemic by improving data collection and quality, promoting prevention efforts, supporting health systems and providers with data, and partnering with public safety officials. Introduction of NFLIS data into public health efforts allows for further collaboration between public health and law enforcement to combat the opioid epidemic. Public health analysis of drug seizure data contributes to surveillance efforts related to opioid use disorder (OUD), including fatal and non-fatal overdoses, prescription behaviors and naloxone administrations, partners and stakeholders to capture the entire spectrum of the OUD.

In Louisiana, six forensic labs report to NFLIS:

- Louisiana State Police Crime Lab
- Acadiana Criminalistics Lab (New Iberia)
- Jefferson Parish Sheriff's Office (Metairie)
- New Orleans Police Department Crime Lab (New Orleans)²
- North Louisiana Criminalistics Lab System (Shreveport, Alexandria, West Monroe)
- Southwest Louisiana Criminalistics Lab (Lake Charles)

For this analysis, NFLIS was used to search all drugs submitted for testing in Louisiana from 2013 to 2017. This analysis displays the number of positive tests for each drug entered into NFLIS. The data do not represent total number of drugs seized, and percentages shown represent proportions of positive drugs for all drugs tested, not proportions of all drugs seized. Positive opioid tests made up roughly 10% of all positive drug tests in each year from 2013 to 2017. In 2017, drugs seized in law enforcement operations and submitted for laboratory analysis tested positive for opioids 4,330 times.

¹NFLIS users can search for all drugs submitted for testing or search for specific drug categories (e.g. narcotics, benzodiazepines, stimulants, etc.) in a specified time period. The data list the drug name and the number of times the drug tested positive in the lab. For substances that involved more than one drug (polysubstance), each drug involved is counted as one positive test. Thus, seizure of one drug can result in multiple positive drug tests. The user does not know the number of polysubstance drugs tested.

²New Orleans Police Department participates in the NFLIS program but does not currently report data into NFLIS.

Figure 1. Number of Positive Opioid Tests, 2013-2017

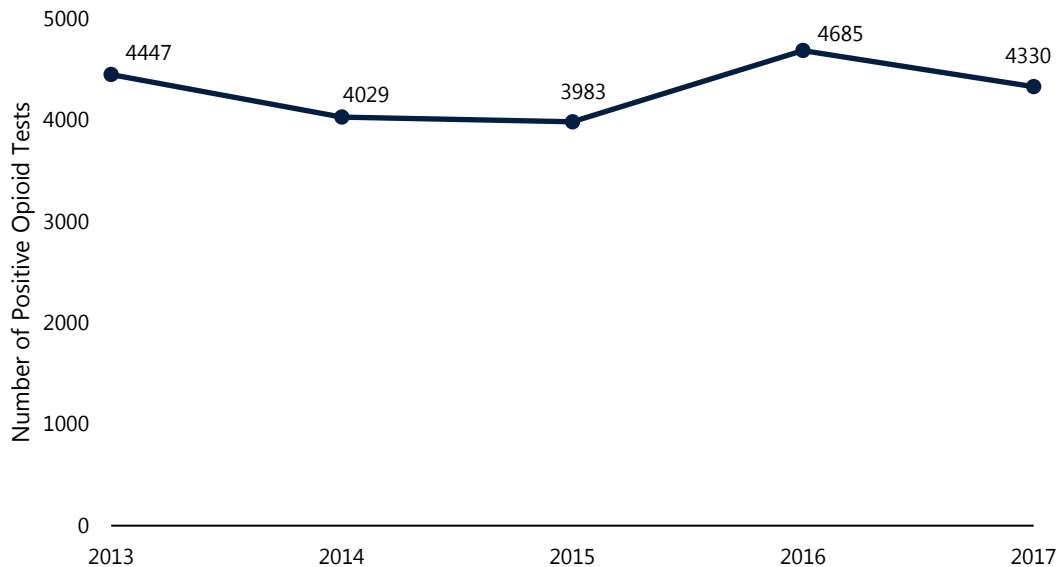


Figure 1 shows that the number of positive opioid tests has remained steady from 2013 to 2017. These numbers include both legally marketed opioids as well as illicit opioids, such as heroin and fentanyl.

Figure 2. Number of Positive Tests By Drug, 2013-2017

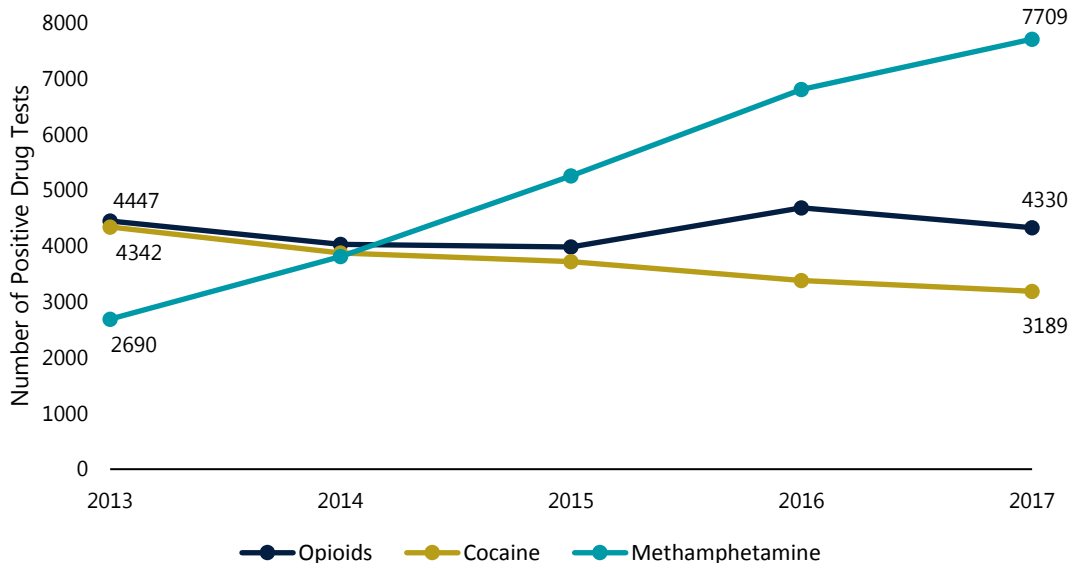


Figure 2 shows how the trend in positive opioid tests from 2013 to 2017 compares to cocaine and methamphetamine. Positive tests for cocaine declined moderately each year, whereas positive tests for methamphetamine has been increasing sharply every year, surpassing both cocaine and opioids by 2015. While the number of positive tests for opioids has remained steady in this time period, the types of opioids seized by law enforcement has changed. The figure below shows the shift in composition/types of opioids found in drug seizures from 2013 to 2017.

³Data from the Louisiana Opioid and Data Surveillance System (LODSS)

Figure 3. Percentage of Positive Opioid Tests by Opioid Groups, 2013 & 2017

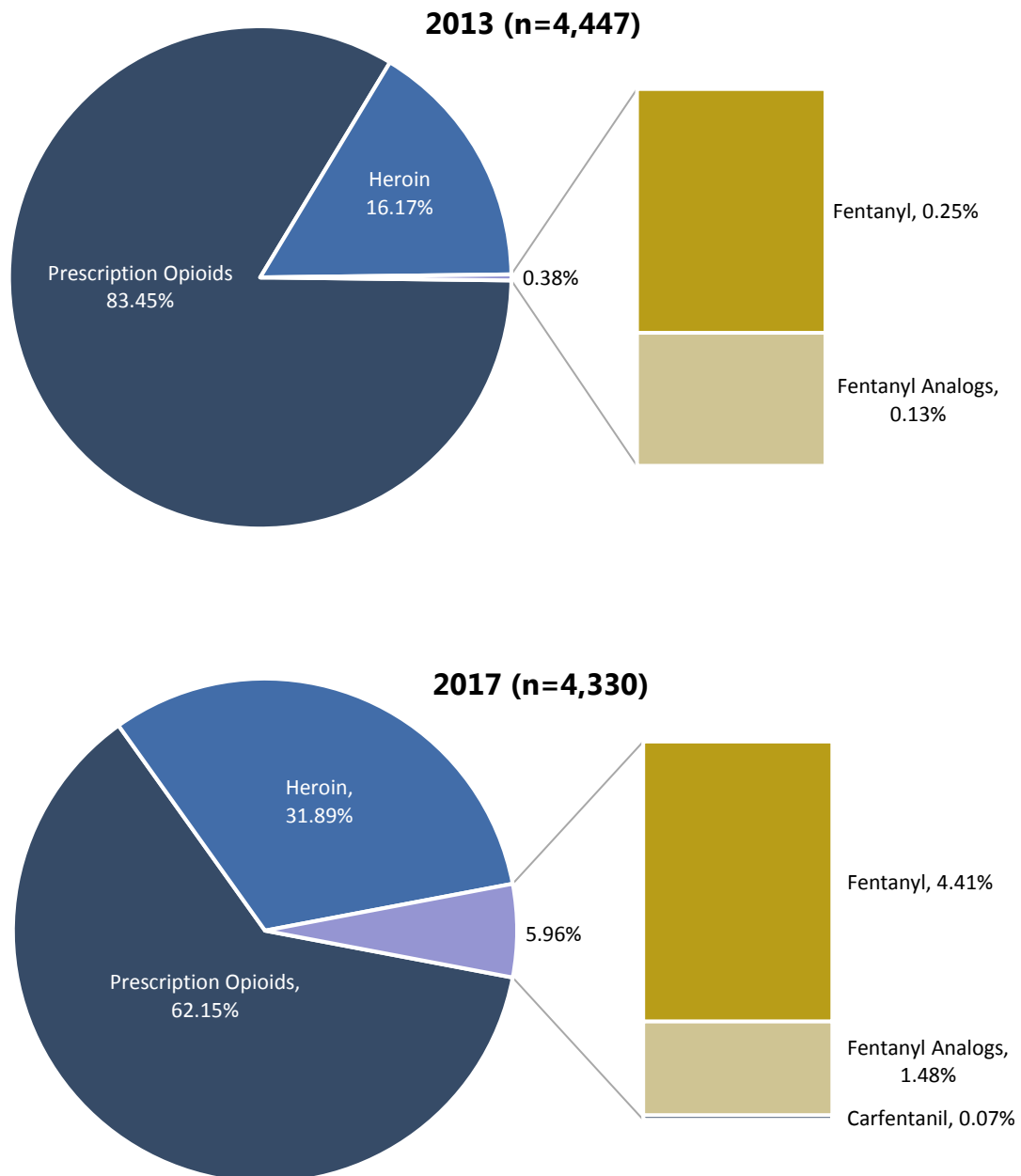


Figure 3 shows a significant shift from prescription opioids to illicit opioids in illegal markets. In 2013, prescription opioids made up 83.45% of all positive opioid tests. By 2017, the number of positive tests for prescription opioids dropped to only a little more than half of all opioids tested. Conversely, positive heroin tests doubled from 16.17% to 31.89%, and positive fentanyl tests increased from 0.38% to 5.96% from 2013 to 2017. For this analysis, positive fentanyl tests were broken into three categories: fentanyl, fentanyl analogs and carfentanil. Positive tests increased for both fentanyl and fentanyl analogs during the time period, and carfentanil was detected for the first time in 2017.

³Data from the Louisiana Opioid and Data Surveillance System (LODSS)

The decline in positive tests for prescription opioids from NFLIS is consistent with data from the Louisiana Prescription Monitoring Program (PMP) that show yearly declines in prescriptions of all opioid analgesics. In 2014, Louisiana had 5.42 million prescription opioids, compared to 4.96 million opioid prescriptions in 2017, an 8.55% decrease.³ With fewer opioid prescriptions, there are fewer opioids available for diversion into illegal markets. Although there are fewer opioid prescriptions in the state overall, there may be increases in prescriptions of certain opioids. Further analyses of PMP data are required to determine trends in different types of opioid analgesic prescriptions.

Limitations of the data:

The data inform users of the number of positive tests for each drug submission, but the system does not provide weight or quantity of each drug. Therefore, the number of positive drug tests is not directly proportional to the number of overdose deaths in the state.

Additionally, polysubstance drugs may have too little of one substance to report into NFLIS. An example of a common polysubstance drug is heroin laced with fentanyl. If the quantity of fentanyl is large enough to be reportable, NFLIS will show this as one positive heroin test and one positive fentanyl test. If there is not enough fentanyl mixed with heroin, the system will only count this polysubstance drug as a positive test for heroin. Even though trace amounts of fentanyl may not be reportable into NFLIS, these small amounts can be enough to cause an opioid overdose death. Thus, fentanyl-related overdose deaths in Louisiana may be increasing at much higher rates than increases in positive fentanyl drug tests reported to NFLIS.

The biggest limitation of the data is that they are aggregated, or summed into larger groups. Aggregated data are useful for observing trends, but should not be the sole source of data for drawing conclusions related to the opioid epidemic in Louisiana. To better explain trends among law enforcement drug seizures, NFLIS data should be interpreted alongside PMP data, death records, Medicaid claims data and other sources of data to frame the entire picture.

³Data from the Louisiana Opioid and Data Surveillance System (LODSS)